

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

REC'D 29 SEP 2005

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Applicant's or agent's file reference P212564PCT SMO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/NL2003/000934	International filing date (day/month/year) 24.12.2003	Priority date (day/month/year) 24.12.2003
International Patent Classification (IPC) or both national classification and IPC H04Q7/30		
Applicant TELEFONAKTIEBOLAGET LM ERICSSON et al.		



- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21.07.2005	Date of completion of this report 30.09.2005
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Janyszek, J-M Telephone No. +31 70 340-3489 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/NL2003/000934**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-33 as originally filed

Claims, Numbers

1-18 as originally filed

Drawings, Sheets

1/16-16/16 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/NL2003/000934**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18
	No: Claims	
Inventive step (IS)	Yes: Claims	1-18
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL2003/000934

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following document/s/:

D1: US-A-6 134 229 (COONS DAVID D ET AL) 17 October 2000 (2000-10-17)

D2: US 2003/026237 A1 (KURDAHI FADI JOSEPH ET AL) 6 February 2003 (2003-02-06)

D3: US-A-5 159 596 (ITOH SADA0) 27 October 1992 (1992-10-27)

The subject-matter of claims 1-18 meets the requirements of Article 33(1) PCT as the subject-matter of the claims is considered new in the sense of Article 33(2) PCT and implies an inventive step, Article 33(3) PCT.

The document **D1** is regarded as being the **closest prior art** to the subject-matter of claim 1 and shows (the references in parentheses applying to this document):

"a radio base station (see col. 1, lines 14-17) comprising an array of DSPs for performing base band signal processing (see figure 1 and 2 and col. 2, lines 37-65)

The **subject-matter of claim 1** differs from this known radio base station at least in that:

"the radio base station comprises at least one analogue signal manifold comprising input lines, output lines and nodes for making connections between input and output lines, said input lines and output lines being connectable to predetermined resources and said nodes being arranged to perform at least a mathematical operation on an incoming signal on the input lines".

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The **problem** to be solved by the present invention may be regarded as to provide low cost flexible signal processing in a base station.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL2003/000934

None of the cited documents discloses the use of an analog manifold. D1 and D2 disclose arrays of DSPs which need in both cases a complicated management of the signal flows between the inputs and the outputs. D3 discloses an array of basic switches which does however not provide the same flexibility and signal combination possibilities as the invention.

None of the further documents cited discloses further information which would render the invention obvious.

The subject-matter of claim 1 implies therefore an inventive step (Art. 33(3) PCT).

Similar reasoning applies for the corresponding method claim 16 and computer program claim 17. **The subject-matter of both claims 16 and 17 is therefore new and involves an inventive step (Art. 33(2) & (3) PCT).**

Claims 2-15, respectively claim 18, are dependent on claim 1 and 17 as such also meet the requirements of the PCT with respect to novelty and inventive step.